

### **AMENDMENTS TO THE CLAIMS**

1. (Currently amended) A method for adapting a wireless communications link between a transmitter and a receiver wherein information is communicated in a downlink direction from a base transceiver station to multiple subscriber units and in an uplink direction from said multiple subscriber units to said base transceiver station comprising:

establishing a radio frequency (RF) bandwidth as a communications channel in a wireless communications system;

establishing a desired channel quality for uplink communications between said transmitter and said receiver over said communications channel; [[and ]]

reducing said RF bandwidth of said communications channel for uplink communications to achieve said desired channel quality;

allocating additional uplink time slots for uplink communications over said communications channel with said reduced RF spectrum to maintain a desired uplink transmission rate between said transmitter and said receiver over said communications channel with said reduced RF spectrum; and

taking time slots from other uplink communications channels to compensate for said additional uplink time slots that are allocated to said uplink communications channel with said reduced RF spectrum.

2. (Previously presented) The method of claim 1 wherein reducing said RF spectrum is preceded by:

determining a current channel quality for uplink communications between said transmitter and said receiver over said communications channel;

utilizing all of said RF bandwidth of said communications channel for uplink communications if said current channel quality meets said desired channel quality; and

reducing said RF spectrum of said communications channel to achieve said desired channel quality and utilizing said reduced RF spectrum of said communications channel for uplink communications if said current channel quality does not meet said desired channel quality.

3. (Canceled).

4. (Canceled).

5. (Previously presented) The method of claim 3 further including:

indicating to said transmitter, the frequency range of the reduced RF spectrum that is to be used for subsequent uplink transmissions; and

indicating changes in time slot allocations as a result of the uplink channel with the reduced RF spectrum.

6. (Original) The method of claim 1 further including utilizing time division duplexing for downlink and uplink communications.

7. (Previously presented) The method of claim 1 wherein the RF spectrum for downlink communications is greater than the RF spectrum for uplink communications.

8. (Previously presented) The method of claim 1 wherein reducing said RF spectrum includes:

dividing said RF spectrum into uplink sub-channels; and

assigning at least one of said uplink sub-channels to said transmitter for uplink communications.

9. (Previously presented) The method of claim 8 wherein dividing said RF spectrum into uplink sub-channels includes dividing said RF spectrum into  $n$  uplink sub-channels of equal size, where  $n$  is an integer.

10. (Previously presented) The method of claim 8 further including:

establishing a desired signal-to-noise ratio as said desired channel quality for uplink communications; and

assigning a number,  $m$ , of uplink sub-channels to said communications channel such that said desired signal-to-noise ratio is met for uplink communications, wherein  $m$  is an integer.

11. (Previously presented) The method of claim 8 further including:

establishing a desired signal-to-noise ratio as said desired signal-to-noise ratio as said channel quality for uplink communications; and

assigning a number,  $m$ , of uplink sub-channels to said communications channel such that said desired signal-to-noise ratio is met for uplink communications, wherein  $m$  is an integer.

12. (Original) The method of claim 11 further including allocating additional time slots for uplink communications to maintain a constant uplink transmission rate.

13. (Original) The method of claim 12 further including utilizing time division duplexing to communicate in the uplink and downlink directions.

14. (Previously presented) The method of claim 1 further including indicating, to said transmitter, the frequency range of the reduced RF spectrum allocated to the communications channel that is to be used for subsequent transmissions.

15-20. (Canceled).

21. (Currently amended) A method for adapting a wireless communications link between a transmitter and a receiver wherein information is communicated in a downlink direction from a base transceiver station to multiple subscriber units and in an uplink direction from said multiple subscriber units to said base transceiver station comprising:

identifying a radio frequency (RF) spectrum that is available for use as a communications channel in a wireless communications system;

establishing a desired channel quality for uplink communications between said transmitter and said receiver over said communications channel; [[and]]

selecting a portion of said RF spectrum that enables said desired channel quality to be met for uplink communications;

allocating additional uplink time slots for uplink communications over said communications channel to maintain a desired uplink transmission rate between said transmitter and said receiver over said communications channel;

indicating to said transmitter, the frequency range of said selected portion of said RF spectrum that is to be used for subsequent uplink transmissions; and

indicating changes in time slot allocations to said transmitter.

22. (Previously presented) The method of claim 21 wherein selecting a portion of said RF spectrum is preceded by:

determining a current channel quality for uplink communications between said transmitter and said receiver over said communications channel;

utilizing all of said RF spectrum of said communications channel for uplink communications if said current channel quality meets said desired channel quality; or

reducing said RF spectrum of said communications channel to achieve said desired channel quality and utilizing said reduced RF spectrum of said communications channel for uplink communications if said current channel quality does not meet said desired channel quality.

23. (Canceled).

24. (Currently amended) The method of claim 21 [[23]] further including taking time slots from other uplink communications channels to compensate for said additional uplink time slots that are allocated to said uplink communications channel.

25. (Canceled).

26. (Original) The method of claim 21 further including utilizing time division duplexing for downlink and uplink communications.

27. (Previously presented) The method of claim 26 wherein the RF spectrum for downlink communications is greater than the RF spectrum for uplink communications.

28. (Previously presented) The method of claim 21 wherein selecting a portion of said RF spectrum includes:

dividing said RF bandwidth into uplink sub-channels; and

assigning at least one of said uplink sub-channels to said transmitter for uplink communications.

29. (Previously presented) The method of claim 28 wherein dividing said RF spectrum into uplink sub-channels includes dividing said RF spectrum into  $n$  uplink sub-channels of equal RF spectrum size, where  $n$  is an integer.

30. (Previously presented) The method of claim 28 further including:

establishing a desired signal-to-noise ratio as said desired channel quality for uplink communications; and

assigning a number,  $m$ , of uplink sub-channels to said communications channel such that said desired signal-to-noise ratio is met for uplink communications, wherein  $m$  is an integer.

31. (Previously presented) The method of claim 28 further including:

establishing a desired signal-to-noise ratio as said desired channel quality for uplink communications; and

assigning a number of uplink sub-channels to said communications channel such that said desired signal-to-noise ratio is met for uplink communications.

32. (Original) The method of claim 31 further including allocating additional time slots for uplink communications to maintain a constant uplink transmission rate.

33. (Original) The method of claim 32 further including utilizing time division duplexing to communicate in the uplink and downlink directions.

34. (Previously presented) The method of claim 21 further including indicating, to said transmitter, the frequency range of said selected portion of said RF spectrum that is to be used for subsequent transmissions.

35-38. (Canceled).

39. (New) A method for adapting a wireless communications link between a transmitter and a receiver wherein information is communicated in a downlink direction from a base transceiver station to multiple subscriber units and in an uplink direction from said multiple subscriber units to said base transceiver station comprising:

establishing a radio frequency (RF) spectrum as a communications channel in a wireless communication system;

establishing a desired channel quality for uplink communications between said transmitter and said receiver over said communications channel;

reducing said RF spectrum of said communications channel for uplink communications to achieve said desired channel quality;

wherein reducing said RF spectrum includes:

dividing said RF spectrum into uplink sub-channels; and



assigning at least one of said uplink sub-channels to said transmitter for uplink communications;

establishing a desired signal-to-noise ratio as said desired channel quality for uplink communications; and

assigning a number,  $m$ , of uplink sub-channels to said communications channel such that said desired signal-to-noise ratio is met for uplink communications, wherein  $m$  is an integer.

40. (New) A method for adapting a wireless communications link between a transmitter and a receiver wherein information is communicated in a downlink direction from a base transceiver station to multiple subscriber units and in an uplink direction from said multiple subscriber units to said base transceiver station comprising:

identifying a radio frequency (RF) spectrum that is available for use as a communications channel in a wireless communications system;

establishing a desired channel quality for uplink communications between said transmitter and said receiver over said communications channel;

selecting a portion of said RF spectrum that enables said desired channel quality to be met for uplink communications;

dividing said RF spectrum into uplink sub-channels;

assigning at least one of said uplink sub-channels to said transmitter for uplink communications;

establishing a desired signal-to-noise ratio as said desired channel quality for uplink communications; and

assigning a number of uplink sub-channels to said communications channel such that said desired signal to noise ratio is met for uplink communications.